

Rankled by Republicans Proposing R&D Boosts, Clinton Touts Science as Economic Stimulus in Budget

To many who jam-packed the auditorium of the Old Executive Office Building on 16 December, it was more than the chance to witness President Clinton handing out the prestigious National Medals of Science and Technology. In the previous week, rumors ran rampant in Washington that the President was about to take advantage of the sharply reduced Federal deficit to adopt an activist agenda that would provide a new sense of direction for his second term. Word had it that scientific research would be a priority in the fiscal 1999 budget that he sends to Congress on 2 February. Clinton was rankled, said some White House aides, by criticism that Republicans in Congress were gaining credit for raising appropriations levels for science and medical research above his own requests last year and were planning larger increases in the future budgets (see PHYSICS TODAY, December 1997, page 49).

The gossip seemed to be true. Clinton's speech at the ceremony honoring scientists, engineers and business leaders would mark the opening of a series of pronouncements and proposals on science and technology that would lead up to his State of the Union address to Congress on 27 January.

The President's science adviser, John H. Gibbons, set the stage by noting that Clinton, "from his first day in office," has wielded "a two-edged sword" of fiscal responsibility and public investment, and "support of research remains one of his key investment strategies." In his remarks, Clinton took credit for increased support of science and technology for five years in a row. He praised R&D innovations as the engine of what he termed the "new economy," which, he said, has already resulted in "higher-paying jobs, better health care, stronger national security and improved quality of life for all Americans." Indeed, "half our economic growth in the last half-century has come from technological innovation and the science that supports it," Clinton stated.

The President then spoke of two R&D initiatives, both of which had been announced before by their agencies: the Defense Department's \$14 million program for universities, in partnership with semiconductor manu-



ELEMENTAL MEDAL: President Clinton presents Medal of Science to Darleane Hoffman for her leadership in nuclear chemistry, particularly in nuclear fission.

facturers, to develop new supercomputer chips, and the \$82 million worth of new grants offered by the Commerce Department's Advanced Technology Program to private companies for the generic development of new products and processes.

Clinton also provided a homily. Ben Franklin, he noted, had once said he was sorry to have been born in the 18th century, because he would miss "the happiness of knowing what will be known 100 years hence." Clinton then added: "I'm sure he'd be filled with awe and pride that the American tradition of innovation [Franklin] helped to establish is still driving our nation forward."

Among the 14 medalists honored by Clinton on 16 December were four physicists: Marshall N. Rosenbluth of the University of California, San Diego, for his contributions to plasma physics and computational statistical mechanics; George W. Wetherill of the Carnegie Institution of Washington, for his work in understanding the measurement of geological time and the formation of planets in evolving solar systems; Martin Schwarzschild of Princeton University, who died last April, for his development of the theory of stellar evolution and his insights into galactic dynamics; and Ray M. Dolby, founder, owner and chairman of Dolby Laboratories, who joined Ampex at the age of

16, got a PhD in physics from Stanford University while doing research on long-wavelength x rays and invented technologies for improving sound recording and reproduction.

Other winners included Darleane C. Hoffman of the University of California, Berkeley, and Lawrence Berkeley National Laboratory, for her discovery of primordial plutonium in nature and her studies of elements 104, 105 and 106; and Shing-Tung Yau of Harvard University, for his work in basic geometric differential equations. (For a more complete account, see PHYSICS TODAY, July 1997, page 75.)

It's likely that the medals ceremony raised Clinton's awareness of research and technology. Each week in January, the President appeared to be advancing on some new front in anticipation of his State of the Union address, which traditionally presents his wish list of legislative and budgetary priorities, be it tougher food inspection, AIDS vaccine research or more energy-efficient cars. He used his radio address on 10 January to talk about "the extraordinary promise of science and technology and the extraordinary responsibilities that promise imposes on us." He also spoke of his "solid commitment" to scientific research and technological development. The balanced budget Clinton will submit in February, he said, "reflects that continued commitment,"

and he promised to reveal in his State of the Union address "what we're doing to keep America on the cutting edge of the scientific and technological advancements that are driving our new global economy."

As the release of Clinton's fiscal 1999 budget approached, the science community was buzzing with glee. Accounts circulated that the request for the National Institutes of Health (NIH) would go up by 7.4%. In November, after receiving a flat bottom line from the White House Office of Management and Budget (OMB) for next year, Neal Lane, director of the National Science Foundation (NSF), protested to the White House and quickly won an increase of 7.3%, which was calculated by OMB to just about equal the boost for NIH; then last month, OMB informed Lane that the White House had

more than acceded to his request and allocated a hefty 10% increase for NSF. The Department of Energy's research programs are also due for improved budgets, with the Oak Ridge National Laboratory slated for funds to begin building its long-awaited spallation source.

While this strategy risks giving the impression that Clinton is returning to the era of big government (after telling Congress last year that the era is over), he has tempered his statements by vowing to balance the budget in 1999 for the first time in three decades—and three years sooner than envisioned in the historic budget deal signed last summer. But there is a possible hitch. The newfound revenues in the Federal budget are expected to come from taxes resulting from capital gains, stock option incomes and corporate profits re-

lated to the surging stock market and robust economic growth—and there is no guarantee that either will rise strongly this year and beyond. Another possible source of funds is the tobacco settlement, but the substantial revenues the White House is counting on may run into serious conflict in Congress.

Still, the prospects for scientific research have taken on a rosy glow. Only two years ago, the nation's research community was in despair over a potentially bleak future. Now it appears that research champions in the White House and on Capitol Hill are vying to pump large new sums into several fields, in particular, to help sustain economic growth, but also to increase the human wealth of knowledge and understanding.

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WASHINGTON DISPATCHES

► **Footing the R&D Bill** Industry's R&D expenditures this year are expected to total \$142.3 billion, up a solid 6.7% from the \$133.3 billion that the National Science Foundation estimates the private sector spent in 1997. The forecast for non-government R&D spending comes from an annual survey by Battelle Memorial Institute in Columbus, Ohio, and *R&D Magazine*. Assuming a 2.6% rate of inflation for 1998, corporate investment would amount to a substantial "real" increase of about 4.1%, states the report of the survey.

Continued economic strength, says the report, means that industry's expanding support of R&D will rebound from the much skimpier allotments given research departments in the early and mid-1990s—years when many companies were intent on cost-cutting, restructuring and downsizing. "After a decade or more of cost reductions, American companies are shifting their attention from bottom-line profits to top-line growth," says Stephen M. Millett, a Battelle researcher.

Until about 1980, the report points out, the Federal government was the nation's largest source of research spending, providing a trifle more than 50% of all funding. The Federal share has dwindled steadily since then. In fact, says the report, the government's R&D allocations will be nearly flat this year. When inflation is taken into account, US government outlays will actually shrink. "The promise of a peace dividend in the early 1990s and its potential to promote research has not been realized," says Jules Duga, a physicist and senior analyst at Battelle. Duga observes that the reason this hasn't happened is because the government hasn't redefined its research role in a post-cold-war environment.

► **Almost Business as Usual at NAS** In a swift late-night action, with hardly any members in the chamber, the House voted on 10 November to exempt the National Academy of Sciences (NAS) from the stringent rules that apply to Federal advisory committees. The rules imposed by the 1972 Federal Advisory Committee Act (FACA), say academy officials, would have seriously impaired the NAS's independence in providing impartial advice to government agencies. The House bill, which was passed by the Senate in one of its last actions before adjourning on 13 November, requires the academy's operating body, the National Research Council, to allow public comment on the choice of committee members and to provide summaries of all the panel's meetings.

After President Clinton signed the bill into law on 17 December, Bruce Alberts, the academy's president and chairman of the research council, expressed his gratitude and "absolute delight." If the NAS had to abide by the procedures of FACA, Alberts explained, it would have placed "our work under government control and made it subject to political influences and special-interest pressures."

The legislation ends a bitter, yearlong court battle between the academy and environmental and animal rights organizations, who argued that the NAS has too cozy a relationship with the Federal agencies that fund studies by panels of the research council (see *PHYSICS TODAY*, June 1997, page 66). The struggle reached a climax of sorts in November when the US Supreme Court declined to review a lower court's ruling in January 1997 that decided the academy is indeed subject to FACA, which requires open meetings of all advisory groups and gives agencies authority over the naming of committee members and the agenda of meetings. Faced with losing control of any study, the academy made its case before a House government reform subcommittee, chaired by Representative Steve Horn, a California Republican. At a sometimes contentious hearing on 5 November, Alberts debated the merits of the proposed legislation with critics and lawmakers, who insisted that the NAS research council be required to reduce or eliminate the chances of bias and conflict of interest among its committee members.

In the end, with Congress racing to finish the session, a compromise was reached. The legislation requires the research council to take account of public comments on members selected for the panel before the first meeting and directs the research council to reveal the names of reviewers of a panel report.

Eric Glitzenstein, who represented the Animal Legal Defense Fund in the courts, says the litigants are now satisfied, though "they would have preferred more public access to meetings. Nonetheless, the academy will now have more public accountability." Many academy members agree with Alberts on the changes wrought by the legislation. "We are confident that we can accommodate the new provisions without jeopardizing our crucial role as independent adviser to the government," says Alberts, "and we believe that the increased transparency of our processes will benefit both the academy and the nation."

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